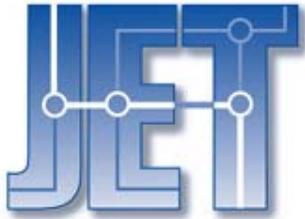


Level 3 Communications

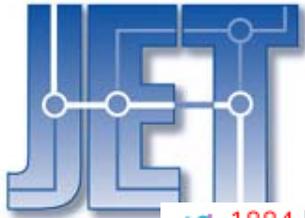
The Network Partner You Can Rely OnSM

**JET Roadmap Workshop Jefferson Lab, Newport News,
Virginia
April 13-15, 2004**

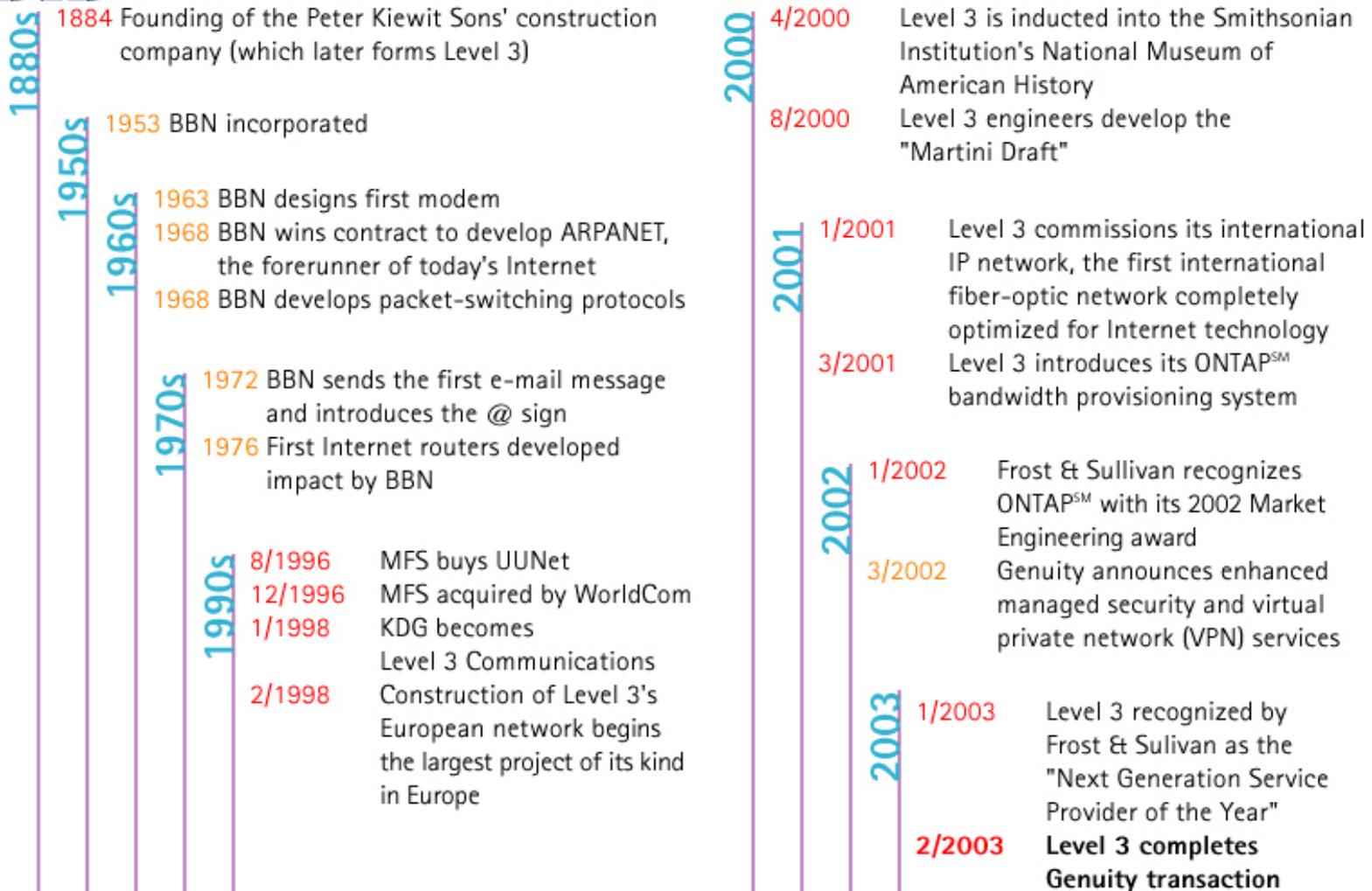


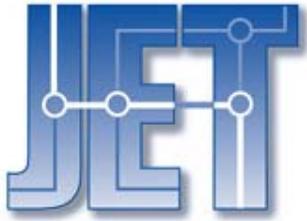
Company Overview

- Level 3 is a facilities-owned, communications and information services company offering world-class services in North America and Europe
- The company has offered wholesale communications services since inception:
 - Wholesale Internet access services
 - Managed modem dial-up services
 - Broadband transport
 - IP-centric voice services
 - Private data services
 - DSL Aggregation
 - Colocation & Power
 - Metropolitan and intercity dark fiber
- The company also offers enterprise and information services:
 - Level 3 offers enterprise companies dedicated Internet access (domestic and international), remote dial-up access, managed Internet security, and virtual private networks
 - (i)Structure (a wholly owned subsidiary of Level 3) provides managed IT infrastructure services and enables businesses to outsource IT operations
 - Software Spectrum (a wholly owned subsidiary of Level 3) is the world's largest reseller and license manager of Microsoft products.



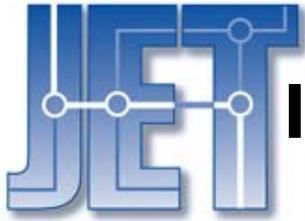
Over 30 Years Internet Experience





Level 3 is Financially Stable

- Level 3 is EBITDA positive — \$116 million for third quarter 2003 (3Q03)
- Level 3 achieved *positive free cash flow* in 3Q03
- Level 3 had \$874 million in consolidated revenue for 3Q03
- In February 2003, Level 3 completed its acquisition of Genuity, a Tier 1 IP communications company



Intercity and Transoceanic Networks



- High-capacity intercity network (approximately 22,500 terrestrial route miles of Level 3-operated fiber across North America and Europe)
- Approximately 19,600 of these route miles were constructed from the ground up by Level 3 using multiple conduits for maximum upgradeability (solely owned and operated by Level 3)
- 87 markets in service: 68 in North America, 19 in Europe
- Substantial multi-terabit transoceanic capacity, plus additional wavelength-based terrestrial mileage extending Level 3's European network



Level 3 Network and Services

- Intercity backbone utilizes Corning LEAF fiber
- 3000 mile metro network
- Fiber, facilities and equipment directly maintained by Level 3
 - Some retained Genuity routes vary from standards
- Transport and Infrastructure Services
 - Dark Fiber
 - Colocation and power
 - Remote Hands support service
 - Point to point wavelength services
 - 2.5Gb and 10Gb
 - Private Line
 - Trans-Atlantic



Current Optical Networks

- Most current optical networks utilize 2nd generation DWDM equipment
 - 2.5 Gb and 10 Gb interfaces
 - Fixed frequency optics
 - 100s of km between regeneration points
- Deployed intercity fiber is capable of meeting requirements for foreseeable future (Post 1995 fiber)
- High capacity wavelength services are predominantly unprotected
- New wavelength installations take weeks
- Wavelength services can not be easily reconfigured in a timely fashion
- Industry is still consuming capacity installed in the bubble years



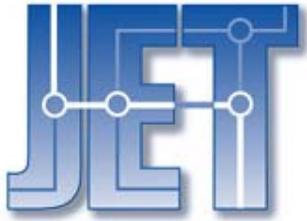
New Optical Developments

- 10 GE LAN PHY
- Ultra Long Reach
- RAMAN Amplification
- High Channel Counts
- OOB FEC
- 40 Gb
- Wavelength Switching
- Electronic Dispersion Compensation
- New Fiber Types
 - Medium Dispersion
 - Dispersion Managed
- Metro WDM systems
- GMPLS



Future Network Plans

- Economics will drive all technology decisions
 - Lower costs for existing services
 - Open new revenue streams
- High startup costs will limit new system deployments
 - Spares, IT development, training, etc
 - Startup costs must be recouped in a reasonable timeframe
 - Unclear service demand complicates the business case
- New system deployments will be limited to specific areas of need
- New technologies will continue to lower costs but sufficient demand is required reap full cost benefits



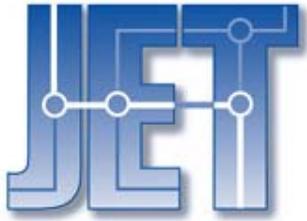
Deployment Opportunities

- **10 GE LAN PHY**
 - Standard in new optical systems
 - Wide deployment by 2005
- **Ultra Long Reach**
 - Deployments driven by each carriers specific network and economic drivers
- **RAMAN Amplification**
 - Will have limited deployments within EDFA networks
- **High Channel Counts**
 - Deployments driven by each carriers specific network and economic drivers
- **OOB FEC**
 - Will be standard on all new optical systems
- **40 Gb**
 - On hold waiting customer or economic drivers



New Optical Developments

- **Wavelength Switching**
 - Will see limited deployments due to high cost and lack of new service demand
- **Electronic Dispersion Compensation**
 - Should start appearing in 2005
 - Likely required for fully transparent reconfigurable optical services
- **New Fiber Types**
 - No wide scale new fiber deployments
 - Economic justification of dispersion managed fiber unclear
- **Metro WDM systems**
 - Will be used for regional applications
- **GMPLS**
 - Will be widely deployed in new systems
 - Carriers will only use for intra vendor applications only



Summary

- Built it and they will come days are gone
- New technologies will start appearing in networks but only where it makes economic sense
- Consumers will need to interconnect with network providers using standard 10Gb SONET/SDH framed and 10GE LAN PHY interfaces
- Customers can drive the deployment of new technologies and the development of new services but only where new demand can drive a business case
- Further shake out is expected in network provider space